Amendments to the Specification:

Rewrite the paragraph at page 3, line 25 as follows:

An example of this random access approach uses a 256-chip spreading code in the generation of the preamble part of the transmission. This conventional approach is described in *Technical Specification TS 25.213 V2.1.0: Spreading and Modulation* (3[rd] Generation Partnership Project, 1999). To request a communications session according to this approach, a wireless unit randomly selects one of sixteen signature symbols for its preamble. The signature consists of a sixteen-symbol sequence of plus or minus the complex value A=1+j. One example of a sixteen symbol signature is ~~[A, A, A, A, A, A, A, A, A, A, A, A, A, A A A]~~ [A, A, A, -A, -A, -A, A, -A, -A, A, A, -A, A, -A, A, A]. Each symbol in this preamble is then spread into 256 consecutive chips, following which the spread preamble is modulated and transmitted to the base station by the requesting wireless unit.

A1

Rewrite the paragraph at page 14, line 8 as follows:

On the receive side, baseband device 40 receives incoming digital signals from baseband interface 45, after digitization of the received signals within RF interface function 44. These signals are applied to chip-rate demodulation and despreading function 48, the construction of which will be described in further detail below, and which derives the transmitted symbols from the digitized received data. Considering that base station 10 receives signals over multiple channels, from multiple wireless units UE in its cell 14, channel estimation function 46 estimates the random channel variation. Channel estimation function 46 and chip-rate demodulation and despreading function 48 each provide output to **symbol user detection and combining function** <u>**50**</u>**, in which the demodulated data are associated with their respective channels, following which symbol decode function 52 decodes the received symbols, for each channel and thus each conversation, into a bit stream suitable for communication to the network via physical layer interface 55 and network interface function 56.**

A2

Rewrite the paragraph at page 20, line 11 as follows:

A3

In process 80, DSP 32 in wireless unit UE spreads the selected Walsh Hadamard code h_m in an interleaved fashion, by repeating the code symbol a number of times sufficient to match the length of the eventual sampling code. For the present example, in which a 4096-chip scrambling code c_n is used, the length sixteen Walsh Hadamard code h_m is repeated 256 times (16 times 256 being 4096), effectively spreading the code symbol in an interleaved fashion as described above relative to Figure 5. Process 82 is then performed by wireless unit UE to multiply the spread code symbol according to the cell-specific scrambling code c_n received from base station 10. Further oversampling of the scrambled signal may also be applied, as desired. The resulting preamble is then modulated and transmitted 84 by wireless unit UE to base station 10 during the available time slot that was selected in process 78.

Rewrite the paragraph at page 21, line 4 as follows:

A4

According to this implementation, the incoming digitized signal is first applied to a series of tapped delay lines 100, for de-interleaving the various interleaved spread code symbols in process 88 according to the preferred embodiment of the invention, as will now be described in detail. As shown in Figure 7, the cell-specific scrambling code is c(k) is decoded by descrambling matched filter 98, and the resulting bit stream is applied to delay line 100_0. ~~for~~ As in the example of delay line 100_0, each of delay lines 100 include a series of delay stages D. The length of each delay line 100 is 16n, where n is the oversampling factor. Taps are located prior to the first delay stage D, and prior to every n delay stages thereafter. The example of delay line 100_0 in Figure 7 illustrates an oversampling factor n=2, such that there are two delay stages D between taps. The output of delay line 100_0 is applied to the input of delay line 100_1, which is next in sequence, and so on. For the present example, in which a length sixteen Walsh Hadamard code is spread 256 times, the number of delay lines 100 in chip-rate demodulate and despread function 48 is 256, as evident by final delay line 100_{255} in the sequence shown.

Rewrite the paragraph at page 24, line 8 as follows:

A5

As shown in Figure 8, the input data stream is again received by delay lines 100, as in the example of Figure 7. As before, delay lines 100 include 256 delay lines 100_0 through 100_{255}, each having 16 times n delay stages D therein, where n is the oversampling factor. Delay lines 100 are tapped along their length as before, to provide 4096 outputs T(0) through ~~T(4093)~~ T(4095) in this example. These outputs T are applied in an interleaved fashion to depsreaders 122_0 through 122_{63}, each of which ~~are~~ is of length 64 in this embodiment of the invention.

Rewrite the paragraph at page 27, line 9 as follows:

A6

The signal paths in chip-rate demodulation and despreading function 48'' shown in Figure 9 are identical to those in Figure 8 for function 48', in this example. This similarity includes segmenting logic function 136_0 receiving output X(0) from Walsh Hadamard transform and code correlation function 124_0, output ~~X(1)~~ X(16) from Walsh Hadamard transform and code correlation function 124_1, output ~~X(2)~~ X(32) from Walsh Hadamard transform and code correlation function 124_2, and output ~~X(3)~~ X(48) from Walsh Hadamard transform and code correlation function 124_3. Similarly, the other fifteen segmenting logic functions 136_1 through 136_{15} receive their corresponding inputs from each of the Walsh Hadamard transform and code correlation functions 124, for their corresponding symbol.

Rewrite the paragraph at page 27, line 22 as follows:

A7

$$\left|X(16)X(0)^* + X(32)X(16)^* + X(48)X(32)^*\right|$$

Rewrite the Abstract as follows:

A method of operating a wireless communications ~~network, including a base station (10) and wireless units (UE),~~ unit (UE) to request a connection with a base station (10) is disclosed. The wireless unit (UE) receives a signal from the base station (10) indicating at least one time slot within which a preamble may be transmitted by the wireless communications unit (UE). ~~units (UE) request a connection with the base station (10) by the transmission of a preamble within time slots designated by the base station (10). The disclosed preambles are Walsh Hadamard code symbols, repeated a number of times so as to have the same length as a cell-specific scrambling code. The wireless unit (UE) requesting a connection pseudo randomly selects a time slot from those available, and one of the Walsh Hadamard code symbols, replicates the code symbol into a spread interleaved bitstream, scrambles this bitstream and transmits it to the base station (10). Upon receipt, the base station (10) applies the incoming bitstream to a matched filter (98) to descramble the signal, following which the symbol is de interleaved by way of a sequence of delay lines (100). Despreaders (102) generate each bit of the symbol from corresponding taps of the delay lines (100), and the symbol is applied to a correlator (104, 126, 136) to determine the transmitted preamble.~~ The wireless unit (UE) selects one of a plurality of orthogonal codes (h_i) for the preamble and generates a spread code using the selected orthogonal code. The spread code (70) is arranged as a symbol (h_i) of the selected code, repeated a selected number of repetitions. The wireless unit (UE) transmits the preamble signal corresponding to the spread code to the base station (10).

A8